**7-3 Project Two Submission**

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CS 255: System Analysis and Design

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# CS 255 System Design Document

## UML Diagrams

### UML Use Case Diagram

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### UML Activity Diagrams

Login Use Case



Schedule Appointment Use Case



### UML Sequence Diagram

Login Use Case



### UML Class Diagram



## Technical Requirements

## Performance Requirements

* The system shall run in a web-based environment.
* The system shall provide a smooth user experience with fast loading times.
* The system shall be updated with every new change to DMV rules, policies, or sample questions.

**Platform Constraints**

* The system shall use a cloud hosting provider to host the system. A Linux distribution would be a preferred architecture.
* The system shall use a relational database, such as MySQL, to store customer and driver data. Cloud hosting providers offer many integrated tools for tasks such as database storage.
* The system shall support common web browsers such as Firefox, Chrome, Safari, and Edge.

**Accuracy and Precision**

* The system shall support user created accounts with unique usernames, emails, and passwords.
* The system shall use case sensitive inputs for password fields.
* The system shall inform the administrator account when an employee user requests a password reset.

**Adaptability**

* The system shall support the disabling of packages offered to users.
* The system shall allow for changes to user accounts through self-service online or through a secretary account.
* The system shall be flexible and provide minimal technical problems.
* The system shall provide high-level access to the IT admin to both maintain and modify the system.

**Security**

* The system shall require the user to have a stable internet connection to log in to the web application.
* The system shall use a client-server architecture, implementing a RESTful API. Communication between the client and server takes place over an HTTPS connection and provides security with SSL certificates, authentication, hashing and input validation.
* The system shall suspend a user account after a set number of unsuccessful login attempts, and require a manual password reset by email.
* The system shall allow the user to automatically reset their password if forgotten.